Listing of the claims

Claims 1-116 (canceled)

117. (new) A compound or polycation having the formula:

$$(R_2)_m - N - L - N - (R_5)_n$$
 $(R_1)_r - (R_4)_u$

or a salt thereof having physiologically acceptable anions X where a is the number of positive charges on the compound or polycation divided by the valence of the anion;

m, n, r, s, u and y are 0 or 1, at least two of m, r or s are 1 and at least two of n, u or y are 1, and wherein when all of m, r and s are 1, the N bonded to R_1 , R_2 and R_3 is positively charged and when all of n, y and u are 1, the N bonded to R_4 , R_5 and R_6 is positively charged;

L is $(CH_2)_1$ or $\{(CH_2)_1$ -Y- $(CH_2)_j\}_k$, where Y is selected from the group consisting of CH_2 , O, S and NH; where j, l and k are integers from 1 to about 100;

R₁ and R₄, independently of one another, are selected from the group consisting of alkyl, alkenyl, alkynyl and aryl groups each of which can be straight-chain, branched or cyclic;

R₃ and R₆, independently of one another, are selected from the group consisting of H, alkyl, alkenyl, alkynyl and aryl groups each of which can be straight-chain, branched or cyclic;

R₂ and R₅, independently of one another, are selected from the group consisting of an alkyl, an alkenyl, an alkynyl and an aryl group optionally substituted by one

or more of an alcohol, an aminoalcohol, an amine, an amide, a carbohydrate, an ether, a polyether, a polyamide, an ester, a mercaptan, an alkylthio, a urea, a thiourea, a guanidyl, or a carbamoyl group, and

wherein two or more of R_1 , R_3 , R_4 , or R_6 , may optionally be covalently linked with each other to form a cyclic moiety.

118. (new) The compound, polycation or salt of claim117 wherein R₂ and R₅, independently of one another are selected from the group consisting of:

-CH₂CH(OR₇)CH₂NH₂; -CH₂CH(OR₇)CH₂NHC(NH)NH₂; -L₁-N(CH₂CH₂OH)₂;

 $-(CH_2)_4N[-(CH_2)_8-CH=CH-(CH_2)_7CH_3]CH_2CH(OR_7)CH_2NH_2;$

where b is an integer selected from 1 to about 4; , where R_7 is H or a carbohydrate, and L_1 is an alkylene or an alkylene ether.

119. (new) The compound, polycation or salt thereof of claim 117 wherein R_2 and R_5 are selected from the group consisting of

-(CH₂)_bNH₂; -CH₂CH(OR₇)CH₂NH₂; -L₁-NHC(NH)NH₂,

 $-CH_2CH(OR_7)CH_2NHC(NH)NH_2; \ and \ -L_1-N(CH_2CH_2OH)_2; \\$

where b is an integer selected from 1 to about 4; , where R_7 is H or a carbohydrate, and L_1 is an alkylene or an alkylene ether.

- 120. (new) The compound, polycation or salt thereof of claim 117 wherein R_2 and R_5 are selected from groups having the formula: $-CH_2CH(OR_7)CH_2NH_2$, where R_7 is H or a carbohydrate.
- 121. (new) The compound, polycation or salt thereof of claim 117 wherein R₂ and R₅ have the formula: -CH₂CH(OH)CH₂NH₂.
- 122. (new) The compound, polycation or salt thereof of claim 121 wherein R₁ and R₄, independently of one another, are selected from the group consisting of straight-chain, branched or cyclic alkyl groups.
- 123. (new) The compound, polycation or salt thereof of claim 122 wherein R₁ and R₄, independently of one another, are selected from the group consisting of straight-chain, branched or cyclic alkyl groups having from about 8 to about 24 carbon atoms.
- 124. (new) The compound, polycation or salt thereof of claim 122 wherein R₃ and R₆, independently of one another, are selected from the group consisting of H, and straight-chain, branched or cyclic alkyl groups.
- 125. (new) The compound, polycation or salt thereof of claim 121 wherein R₃ and R₆, independently of one another, are selected from the group consisting of H, and straight-chain, branched or cyclic alkyl groups.
- 126. (new) The compound, polycation or salt thereof of claim 117 wherein L is $(CH_2)_1$.
- 127. (new) The compound, polycation or salt thereof claim 126 wherein l is selected from 1 to 10.

128. (new) The compound, polycation or salt thereof of claim 126 wherein l is selected from 1 to 4.

129. (new) The compound, polycation or salt thereof of claim 117 wherein L is $\{(CH_2)_l - Y - (CH_2)_j\}_k$

130. (new) The compound, polycation or salt thereof of claim 129 wherein k is selected from 1 to 3.

131. (new) The compound, polycation or salt thereof of claim 129 wherein Y is O.

132. (new) The compound, polycation or salt thereof of claim 131 wherein k is selected from 1 to 3.

133. (new) The compound, polycation or salt thereof of claim 129 wherein k is 1 and Y is O.

134. (new) The compound, polycation or salt thereof of claim 133 wherein 1 and j are selected from 1 to 4.

135. (new) The compound, polycation or salt thereof of claim 117 wherein k is 1, Y is O and I and j are selected from 1 to 4.

136. (new) The compound, polycation or salt thereof of claim 135 wherein R_2 and R_5 , independently of one another are selected from the group consisting of:

-(CH₂)_bNH₂; -CH₂CH(OR₇)CH₂NH₂; -L₁-NHC(NH)NH₂,

 $\hbox{-CH$_2CH(OR$_7$)CH$_2$NHC$(NH$)NH$_2$; -L$_1-N(CH$_2CH_2OH)$_2$;}\\$

 $-(CH_2)_4N[-(CH_2)_8-CH=CH-(CH_2)_7CH_3]CH_2CH(OR_7)CH_2NH_2;$

$$-L_1-N_{+}$$
N; $-CH_2CH(OR_7)CH_2-N_{+}$ N;

$$-(CH_{2})_{3} - N; -L_{1} - (CH_{2})_{3} - N;$$

$$-CH_{2}CH(OR_{7})CH_{2} - N; -L_{1} - (CH_{2})_{3} - NH;$$

$$-(CH_{2})_{3} - NH; - (CH_{2}CH(OR_{7})CH_{2} - NH;$$

$$-(CH_{2})_{3}N(CH_{3})_{3}; and - CH_{2}CH(OH)CH(NH_{2})CH_{2} - NH;$$

137. (new) The compound, polycation or salt thereof of claim 135 wherein R_2 and R_5 are selected from groups having the formula: $-CH_2CH(OR_7)CH_2NH_2$, where R_7 is H or a carbohydrate.

138. (new) The compound, polycation or salt thereof of claim 135 wherein R_2 and R_5 have the formula: $-CH_2CH(OH)CH_2NH_2$.

139. (new) The compound, polycation or salt thereof of claim 117 wherein L is $(CH_2)_1$ and R_2 and R_5 , independently of one another are selected from the group consisting of:

- $-(CH_2)_bNH_2$; $-CH_2CH(OR_7)CH_2NH_2$; $-L_1-NHC(NH)NH_2$,
- $-CH_2CH(OR_7)CH_2NHC(NH)NH_2; -L_1-N(CH_2CH_2OH)_2; \\$
- -(CH₂)₄N[-(CH₂)₈-CH=CH-(CH₂)₇CH₃]CH₂CH(OR₇)CH₂NH₂;

140. (new) The compound, polycation or salt thereof of claim 139 wherein R_2 and R_5 are selected from groups having the formula: $-CH_2CH(OR_7)CH_2NH_2$, where R_7 is H or a carbohydrate.

141. (new) The compound, polycation or salt thereof of claim 139 wherein R_2 and R_5 have the formula: $-CH_2CH(OH)CH_2NH_2$.

142. (new) The compound, polycation or salt thereof claim 141 wherein 1 is selected from 1 to 10.

143. (new) The compound, polycation or salt thereof claim 142 wherein l is selected from 1 to 4.

144. (new) The compound, polycation or salt thereof of claim 117 wherein s and y are both 0.

145. (new) The compound, polycation or salt thereof of claim 144 wherein R_2 and R_5 , independently of one another, are selected from the group consisting of:

-(CH₂)_bNH₂: -CH₂CH(OR₇)CH₂NH₂; -L₁-NHC(NH)NH₂,

 $\hbox{-CH$_2CH(OR$_7$)CH$_2$NHC$(NH$)NH$_2$; -L$_1-N(CH$_2CH_2OH)$_2$;}\\$

 $\hbox{-(CH$_2$_4$N[-(CH$_2$_8$-CH=CH-(CH$_2$_7$CH$_3]CH$_2$CH(OR$_7$)CH$_2NH_2$;}\\$

$$-L_1-N_{-}$$
N; $-CH_2CH(OR_7)CH_2-N_{-}$ N;

$$-(CH_{2})_{3} - N; - L_{1} - (CH_{2})_{3} - N;$$

$$- CH_{2}CH(OR_{7})CH_{2} - N; - L_{1} - (CH_{2})_{3} - NH;$$

$$- (CH_{2})_{3} - NH; - (CH_{2}CH(OR_{7})CH_{2} - NH;$$

$$- (CH_{2})_{3}N(CH_{3})_{3}; and - CH_{2}CH(OH)CH(NH_{2})CH_{2} - NH;$$

146. (new) The compound, polycation or salt thereof of claim 145 wherein R₂ and R₅, independently of one another are selected from the group consisting of:
-(CH₂)_bNH₂; -CH₂CH(OR₇)CH₂NH₂; -L₁-NHC(NH)NH₂, and
-CH₂CH(OR₇)CH₂NHC(NH)NH₂; -L₁-N(CH₂CH₂OH)₂, where b is an integer selected

from 1 to about 4; , where R₇ is H or a carbohydrate, and L₁ is an alkylene or an alkylene

ether.

147. (new) The compound, polycation or salt thereof of claim 146 wherein R_2 and R_5

have the formula:- $CH_2CH(OR_7)CH_2NH_2$ where R_7 is H or a carbohydrate.

148. (new) The compound, polycation or salt thereof of claim146 wherein R_2 and R_5 have the formula:- $CH_2CH(OH)CH_2NH_2$.

149. (new) The compound, polycation or salt thereof of claim144 wherein R₁ and R₄, independently of one another, are selected from the group consisting of straight-chain, branched or cyclic alkyl groups.

150. (new) The compound, polycation or salt thereof of claim149 wherein R₁ and R₄, independently of one another, are straight-chain alkyl groups.

- 151. (new) The compound, polycation or salt thereof of claim 150 wherein R₁ and R₄, independently of one another, are straight-chain alkyl groups having from 8 to about 24 carbon atoms.
- 152. (new) The compound, polycation or salt thereof of claim 144 wherein L is (CH₂)_{1.}
- 153. (new) The compound, polycation or salt thereof claim 152 wherein l is selected from 1 to 10.
- 154. (new) The compound, polycation or salt thereof of claim 153 wherein 1 is selected from 1 to 4.
- 155. (new) The compound, polycation or salt thereof of claim 144 wherein L is $\{(CH_2)_l Y (CH_2)_i\}_k$.
- 156. (new) The compound, polycation or salt thereof of claim 155 wherein k is selected from 1 to 3.
- 157. (new) The compound, polycation or salt thereof of claim 155 wherein Y is O.
- 158. (new) The compound, polycation or salt thereof of claim 157 wherein k is selected from 1-3.
- 159. (new) The compound, polycation or salt thereof of claim 155 wherein k is 1 and Y is O.
- 160. (new) The compound, polycation or salt thereof of claim 159 wherein 1 and j are selected from 1 to 4.

161. (new) The compound, polycation or salt thereof of claim 144 wherein k is 1, Y is O and I and j are selected from 1 to 4.

162. (new) The compound, polycation or salt thereof of claim 161 wherein R_2 and R_5 , independently of one another are selected from the group consisting of:

- $\hbox{-(CH$_2$)$_bNH_2$; -CH$_2$CH(OR$_7$)CH$_2NH_2$; -L$_1$-NHC(NH)NH$_2$,}\\$
- $\hbox{-CH$_2CH(OR$_7$)CH$_2$NHC$(NH$)NH$_2$; -L$_1-N(CH$_2CH_2OH)_2$;}\\$
- $\hbox{-(CH$_2$_4$N[-(CH$_2$_8$-CH=CH-(CH$_2$_7$CH$_3]CH$_2$CH(OR$_7$)CH$_2NH_2$;}$

where b is an integer selected from 1 to about 4; , where R_7 is H or a carbohydrate, and L_1 is an alkylene or an alkylene ether.

163. (new) The compound, polycation or salt of claim 161 wherein R_2 and R_5 , independently of one another are selected from the group consisting of:

- $\hbox{-(CH$_2$)$_bNH_2$; -CH$_2$CH(OR$_7$)CH$_2NH_2$; -L$_1$-NHC(NH)NH$_2$,}\\$
- $\hbox{-CH$_2CH(OR$_7$)CH$_2$NHC$(NH$)NH$_2$; and $\hbox{-}L_1$-N(CH$_2$CH$_2$OH$)$_2$;}$

where b is an integer selected from 1 to about 4; , where R_7 is H or a carbohydrate, and L_1 is an alkylene or an alkylene ether.

164. (new) The compound, polycation or salt of claim 161 wherein R_2 and R_5 , independently of one another, have the formula:- $CH_2CH(OR_7)CH_2NHC(NH)NH_2$; where R_7 is H or a carbohydrate.

165. (new) The compound, polycation or salt of claim 164 wherein R₇ is H.

166. (new) The compound, polycation or salt of claim 165 wherein R₁ and R₄, independently of one another, are selected from the group consisting of straight-chain, branched or cyclic alkyl groups.

167. (new) The compound, polycation or salt thereof of claim 166 wherein R_1 and R_4 , independently of one another, are straight-chain alkyl groups.

168. (new) The compound, polycation or salt thereof of claim 167 wherein R_1 and R_4 , independently of one another, are straight-chain alkyl groups having from 8 to about 24 carbon atoms.

169. (new) The compound, polycation or salt thereof of claim 144 wherein L is $(CH_2)_1$ and R_2 and R_5 , independently of one another are selected from the group consisting of:

 $-(CH_2)_bNH_2$; $-CH_2CH(OR_7)CH_2NH_2$; $-L_1-NHC(NH)NH_2$,

 $-CH_2CH(OR_7)CH_2NHC(NH)NH_2; -L_1-N(CH_2CH_2OH)_2; \\$

 $\hbox{-(CH$_2$)$_4$N[-(CH$_2$)_8$-CH=CH-(CH$_2$)_7CH_3]CH$_2$CH(OR$_7$)CH$_2$NH$_2$;}$

$$---(CH2)3N (CH3)3; and ---CH2CH(OH)CH(NH2)CH2----;;$$

170. (new) The compound, polycation or salt thereof of claim 169 wherein R_2 and R_5 are selected from groups having the formula: $-CH_2CH(OR_7)CH_2NH_2$, where R_7 is H or a carbohydrate.

171. (new) The compound, polycation or salt thereof of claim 170 wherein R_2 and R_5 have the formula: $-CH_2CH(OH)CH_2NH_2$.

172. (new) The compound, polycation or salt thereof claim 171 wherein l is selected from 1 to 10.

173. (new) The compound, polycation or salt thereof claim 172 wherein l is selected from 1 to 4.

174. (new) The compound, polycation or salt thereof of claim 173 wherein R₁ and R₄, independently of one another, are selected from the group consisting of straight-chain, branched or cyclic alkyl groups.

175. (new) The compound, polycation or salt thereof of claim 174 wherein R_1 and R_4 , independently of one another, are straight-chain alkyl groups.

176. (new) The compound, polycation or salt thereof of claim 175 wherein R₁ and R₄, independently of one another, are straight-chain alkyl groups having from 8 to about 24 carbon atoms.

177. (new) The compound, polycation or salt thereof of claim 117 wherein s and y are both 1.

178. (new) The compound, polycation or salt thereof of claim 177 wherein R_2 and R_5 , independently of one another, are selected from the group consisting of:

-(CH₂)_bNH₂: -CH₂CH(OR₇)CH₂NH₂; -L₁-NHC(NH)NH₂,

- $CH_2CH(OR_7)CH_2NHC(NH)NH_2$; - L_1 - $N(CH_2CH_2OH)_2$;

 $-(CH_2)_4N[-(CH_2)_8-CH=CH-(CH_2)_7CH_3]CH_2CH(OR_7)CH_2NH_2;$

where b is an integer selected from 1 to about 4; , where R_7 is H or a carbohydrate, and L_1 is an alkylene or an alkylene ether.

179. (new) The compound, polycation or salt thereof of claim 177 wherein R_2 and R_5 , independently of one another are selected from the group consisting of:

-(CH₂)_bNH₂: -CH₂CH(OR₇)CH₂NH₂; -L₁-NHC(NH)NH₂, and

-CH₂CH(OR₇)CH₂NHC(NH)NH₂; -L₁-N(CH₂CH₂OH)₂, where b is an integer selected from 1 to about 4; where R₇ is H or a carbohydrate, and L₁ is an alkylene or an alkylene ether.

180. (new) The compound, polycation or salt thereof of claim177 wherein R_2 and R_5 have the formula:- $CH_2CH(OR_7)CH_2NH_2$ where R_7 is H or a carbohydrate.

- 181. (new) The compound, polycation or salt thereof of claim177 wherein R_2 and R_5 have the formula:- $CH_2CH(OH)CH_2NH_2$.
- 182. (new) The compound, polycation or salt thereof of claim 177 wherein R_1 and R_4 , independently of one another, are selected from the group consisting of straight-chain, branched or cyclic alkyl groups.
- 183. (new) The compound, polycation or salt thereof of claim 182 wherein R_1 and R_4 , independently of one another, are straight-chain alkyl groups.
- 184. (new) The compound, polycation or salt thereof of claim 183 wherein R₁ and R₄, independently of one another, are straight-chain alkyl groups having from 8 to about 24 carbon atoms.
- 185. (new) The compound, polycation or salt thereof of claim 177 wherein R₃ and R₆, independently of one another, are selected from the group consisting of H, and straight-chain, branched or cyclic alkyl groups.
- 186. (new) The compound, polycation or salt thereof of claim 177 wherein R_3 and R_6 are both H.
- 187. (new) The compound, polycation or salt thereof of claim 177 wherein L is (CH₂)_L
- 188. (new) The compound, polycation or salt thereof claim 187 wherein l is selected from 1 to 10.
- 189. (new) The compound, polycation or salt thereof of claim 188 wherein 1 is selected from 1 to 4.

190. (new) The compound, polycation or salt thereof of claim 177 wherein L is $\{(CH_2)_l-Y-(CH_2)_j\}_{k}$.

191. (new) The compound, polycation or salt thereof of claim 190 wherein k is selected from 1 to 3.

192. (new) The compound, polycation or salt thereof of claim 190 wherein Y is O.

193. (new) The compound, polycation or salt thereof of claim 192 wherein k is selected from 1-3.

194. (new) The compound, polycation or salt thereof of claim 190 wherein k is 1 and Y is O.

195. (new) The compound, polycation or salt thereof of claim 194 wherein I and j are selected from 1 to 4.

196. (new) The compound, polycation or salt thereof of claim 1 wherein k is 1, Y is O and I and j are selected from 1 to 4.

197. (new) The compound, polycation or salt thereof of claim 196 wherein R₂ and R₅, independently of one another are selected from the group consisting of:

 $\hbox{-(CH$_2$)$_bNH_2$;-CH$_2$CH(OR$_7$)CH$_2NH_2$;-L$_1-NHC(NH)NH$_2$,}\\$

-CH₂CH(OR₇)CH₂NHC(NH)NH₂; -L₁-N(CH₂CH₂OH)₂;

 $-(CH_2)_4N[-(CH_2)_8-CH=CH-(CH_2)_7CH_3]CH_2CH(OR_7)CH_2NH_2;\\$

$$-L_1-N^{\oplus}$$
 N; $-CH_2CH(OR_7)CH_2$ N;

$$--(CH_2)_3$$
 N ; $--L_1$ $--(CH_2)_3$ N ;

198. (new) The compound, polycation or salt thereof of claim 177 wherein L is $(CH_2)_1$ and R_2 and R_5 , independently of one another are selected from the group consisting of:

-(CH₂)_bNH₂; -CH₂CH(OR₇)CH₂NH₂; -L₁-NHC(NH)NH₂,

 $-CH_2CH(OR_7)CH_2NHC(NH)NH_2$; $-L_1-N(CH_2CH_2OH)_2$;

 $-(CH_2)_4N[-(CH_2)_8-CH=CH-(CH_2)_7CH_3]CH_2CH(OR_7)CH_2NH_2;$

where b is an integer selected from 1 to about 4; , where R_7 is H or a carbohydrate, and L_1 is an alkylene or an alkylene ether.

- 199. (new) The compound, polycation or salt thereof of claim 198 wherein R₂ and R₅ are selected from groups having the formula: -CH₂CH(OR₇)CH₂NH₂, where R₇ is H or a carbohydrate.
- 200. (new) The compound, polycation or salt thereof of claim 199 wherein R_2 and R_5 have the formula: $-CH_2CH(OH)CH_2NH_2$.
- 201. (new) The compound, polycation or salt thereof claim 198 wherein 1 is selected from 1 to 10.
- 202. (new) The compound, polycation or salt thereof claim 201 wherein 1 is selected from 1 to 4.
- 203. (new) The compound, polycation or salt thereof of claim 200 wherein R₁ and R₄, independently of one another, are selected from the group consisting of straight-chain, branched or cyclic alkyl groups.
- 204. (new) The compound, polycation or salt thereof of claim 203 wherein R₁ and R₄, independently of one another, are straight-chain alkyl groups.
- 205. (new) The compound, polycation or salt thereof of claim 204 wherein R₁ and R₄, independently of one another, are straight-chain alkyl groups having from 8 to about 24 carbon atoms.
- 206. (new) The compound, polycation or salt thereof of claim 203 wherein R₃ and R₆ are both H.
- 207. (new) The compound, polycation or salt thereof of claim 203 wherein R_3 and R_6 are alkyl groups.
- 208. (new) The compound, polycation or salt of claim 117 wherein:

L is $(CH_2)_l$, where l is 1 to 4;

 R_2 and R_5 have the formula: $-CH_2CH(OR_7)CH_2NH_2$, where R_7 is H or a carbohydrate;

R₁ and R₄ are straight-chain, branched or cyclic alkyl groups;

R₃ and R₆ are selected from the group consisting of H or straight-chain, branched or cyclic alkyl groups.

- 209. (new) The compound, polycation or salt of claim 208 wherein R₇ is H.
- 210. (new) The compound, polycation or salt of claim 209 wherein R₁ and R₄ are straight-chain alkyl groups having from 8 to 24 carbon atoms.
- 211. (new) The compound, polycation or salt of claim 210 wherein s and y are 1 and R_3 and R_6 are alkyl groups.
- 212. (new) The compound, polycation or salt of claim 210 wherein s and y are 1 and R₃ and R₆ are both hydrogen.
- 213. (new) The compound, polycation or salt of claim 210 wherein s and y are both 0.
- 214. (new) A composition comprising one or more compounds, polycations or salts thereof of any one of claims 117, 118, 144, 145, 169, 177, 178, 198, 208, 210, and 213.
- 215. (new) A composition comprising one or more compounds, polycations or salts thereof of any one of claims 117, 118, 144, 145, 169, 177, 178, 198, 208, 210, and 213 and at least one additional component selected from the group consisting of a cell, cells, a cell culture, a cell culture medium, a neutral lipid, a nucleic acid, and a transfection enhancer.
- 216. (new) A composition comprising one or more compounds, polycations or salts thereof of any one of claims 117, 118, 144, 145, 169, 177, 178, 198, 208, 210, and 213 and at least one additional lipid aggregate-forming compound.

- 217. (new) A composition comprising one or more compounds, polycations or salts thereof of any one of claims 117, 118, 144, 145, 169, 177, 178, 198, 208, 210, and 213 and at least one of DOPE, DOPC, or cholesterol.
- 218. (new) A composition comprising one or more compounds, polycations or salts thereof of any one of claims 117, 118, 144, 145, 169, 177, 178, 198, 208, 210, and 213 and at least one neutral lipid or at least one other cationic lipid.
- 219. (new) A composition comprising one or more compounds, polycations or salts thereof of any one of claims 117, 118, 144, 145, 169, 177, 178, 198, 208, 210, and 213 and at least one cationic lipid selected from the group consisting of DOSPA, DOTMA, DMRIE, DOTAP, DOGS and TM-TPS.
- 220. (new) A lipid aggregate comprising one or more compounds or polycations of any one of claims 117, 118, 144, 145, 169, 177, 178, 198, 208, 210, and 213.
- 221. (new) A kit comprising one or more compounds, polycations or salts thereof of any one of any one of claims 117, 118, 144, 145, 169, 177, 178, 198, 208, 210, and 213 and at least one additional component selected from the group consisting of a cell, cells, a cell culture, a cell culture medium, a nucleic acid, a transfection enhancer, and instructions for transfecting a cell or cells.
- 222. (new) A kit comprising one or more compounds, polycations or salts thereof of any one of any one of claims 117, 118, 144, 145, 169, 177, 178, 198, 208, 210, and 213 and at least one additional component selected from the group consisting of another lipid aggregate-forming compound.
- 223. (new) A kit comprising one or more compounds, polycations or salts thereof of any one of any one of claims 117, 118, 144, 145, 169, 177, 178, 198, 208, 210, and 213

and at least one additional component selected from the group consisting of DOSPA, DOTMA, DMRIE, DOTAP, DOGS, TM-TPS, DOPE, DOPC, or cholesterol.

- 224. (new) A method for introducing a polyanion into a cell or cells, said method comprising the steps of contacting one or more polycations of any one of claims 117, 118, 144, 145, 169, 177, 178, 198, 208, 210, and 213 with the polyanion to form a lipid aggregate and thereafter incubating the lipid aggregate formed with a cell or cells.
- 225. (new) A method for introducing a polyanion into a cell or cells, said method comprising the steps of contacting one or more polycations of any one of claims 117, 118, 144, 145, 169, 177, 178, 198, 208, 210, and 213 with the polyanion to form a positively charged lipid aggregate and thereafter incubating the positively charged lipid aggregate formed with a cell or cells.
- 226. (new) A method for introducing a polyanion into a cell or cells, said method comprising the steps of forming a lipid aggregate with one or more polycations of any one of claims 117, 118, 144, 145, 169, 177, 178, 198, 208, 210, and 213, forming a complex between the lipid aggregate and the polyanion to form a lipid aggregate and thereafter incubating the lipid aggregate formed with a cell or cells.
- 227. (new) A method for introducing a polyanion into a cell or cells, said method comprising the steps of forming a lipid aggregate with one or more polycations of any one of claims 117, 118, 144, 145, 169, 177, 178, 198, 208, 210, and 213, forming a positively charged complex between the lipid aggregate and the polyanion and thereafter incubating the positively charged lipid aggregate formed with a cell or cells.
- 228. (new) A method for introducing a biologically active substance into a cell, said method comprising the steps of forming a forming a lipid aggregate with one or more polycations of any one of claims 117, 118, 144, 145, 169, 177, 178, 198, 208, 210, and 213, forming a complex between the lipid aggregate and the biologically active substance and thereafter incubating the complex formed with a cell or cells.

- 229. (new) The compound, polycation or salt of claim 188 wherein R_2 and R_5 , independently of one another are selected from the group consisting of:
- -(CH₂)_bNH₂; -CH₂CH(OR₇)CH₂NH₂; -L₁-NHC(NH)NH₂,
- -CH₂CH(OR₇)CH₂NHC(NH)NH₂; and -L₁-N(CH₂CH₂OH)₂;

- 230. (new) The compound, polycation or salt of claim 188 wherein R_2 and R_5 , independently of one another, have the formula:- $CH_2CH(OR_7)CH_2NHC(NH)NH_2$; where R_7 is H or a carbohydrate.
- 231. (new) The compound, polycation or salt of claim 230 wherein R₇ is H.
- 232. (new) The compound, polycation or salt of claim 231 wherein R_1 and R_4 , independently of one another, are selected from the group consisting of straight-chain, branched or cyclic alkyl groups.
- 233. (new) The compound, polycation or salt thereof of claim 232 wherein R_1 and R_4 , independently of one another, are straight-chain alkyl groups.
- 234. (new) The compound, polycation or salt thereof of claim 233 wherein R_1 and R_4 , independently of one another, are straight-chain alkyl groups having from 8 to about 24 carbon atoms.
- 235. (new) The compound, polycation or salt thereof of claim 232 wherein R_3 and R_6 are both H.
- 236. (new) The compound, polycation or salt thereof of claim 232 wherein R_3 and R_6 are both alkyl groups.